Avaliação 2 - Questão 4

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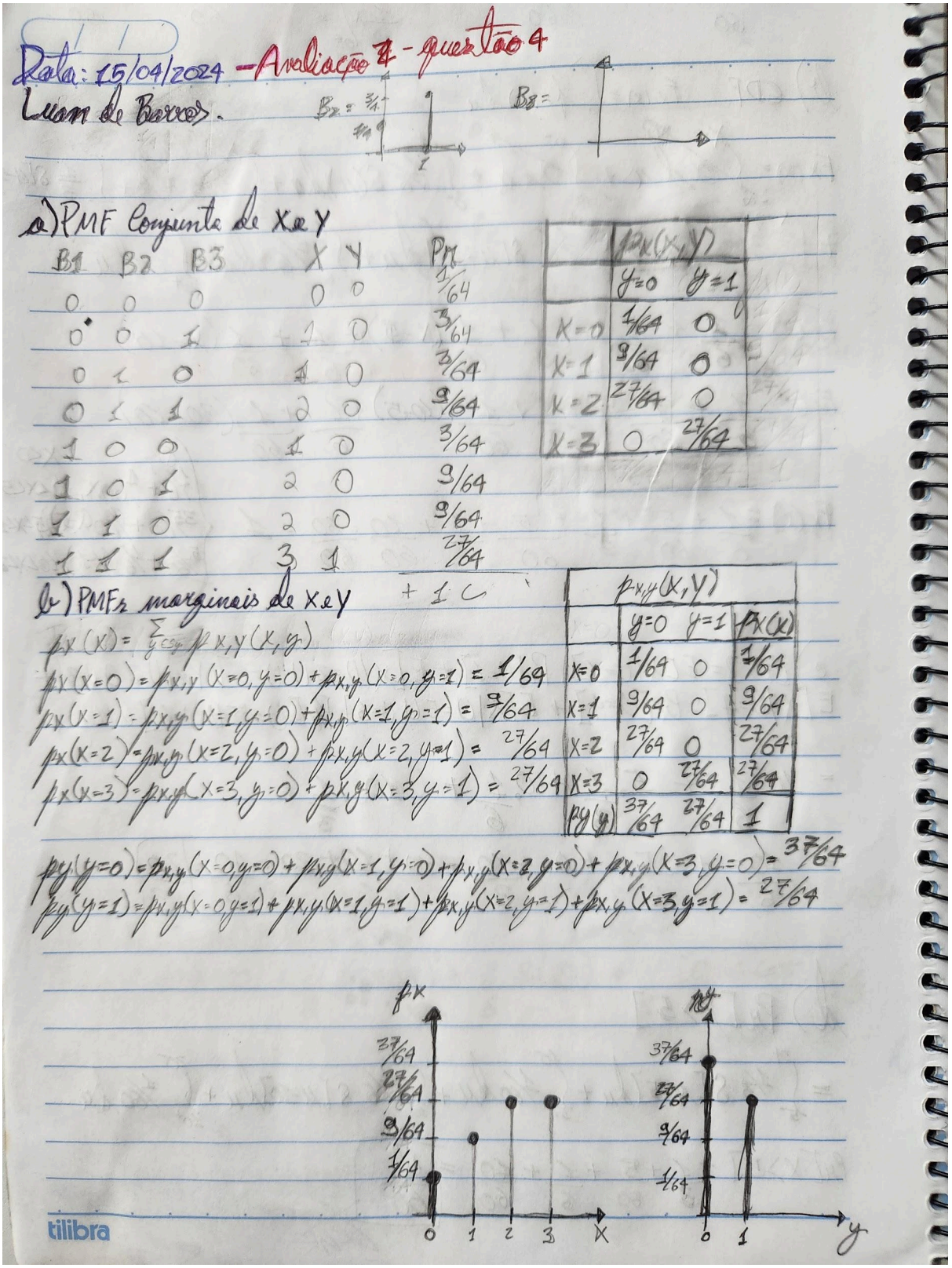

c) PMFs condicionais de X dado que Y = y

$p_{X|Y}(x|y) = \frac{p_{X,Y}(x,y)}{p_Y(y)}$

$p_{X|Y}(x|0) = \frac{p_{X,Y}(x,0)}{p_Y(0)}$

$p_{X|Y}(0|0) = \frac{p_{X,Y}(0,0)}{p_Y(0)} = \frac{1/64}{37/64} = 1/37$

$p_{X|Y}(1|0) = \frac{p_{X,Y}(1,0)}{p_Y(0)} = \frac{9/64}{37/64} = 9/37$

$p_{X|Y}(2|0) = \frac{p_{X,Y}(2,0)}{p_Y(0)} = \frac{27/64}{37/64} = 27/37$

$p_{X|Y}(3|0) = \frac{p_{X,Y}(3,0)}{p_Y(0)} = 0$

$p_{X|Y}(x|1) = \frac{p_{X,Y}(x,1)}{p_Y(1)}$

$p_{X|Y}(0|1) = \frac{p_{X,Y}(0,1)}{p_Y(1)} = 0$

$p(x|y=1) = p_{X,Y}(1,1) = 0$

$p(x|y=1) = p_{X,Y}(2,1) = 0$

$p(x|y=1) = \frac{p_{X,Y}(3,1)}{p_Y(1)} = \frac{27/64}{27/64} = 1$

	X=0	X=1	X=2	X=3
$p_{Y|X}(x|y=0)$	1/37	9/37	27/37	0
$p_{Y|X}(x|y=1)$	0	0	0	1